Remarks

Claims 1-5, 7, 8 and 17-19 are pending. Claim 20 is canceled without prejudice or disclaimer, and thus the objection is now moot.

The Examiner has rejected Claims 1-5, 7, 8 and 17-19 as being unpatentable over Schulz (US 6,261,218), Keary (US 6,294,008), Pyle (US 2,711,965), and Savage (US 3,728,331).

In their previous response, Applicants pointed out that (amended) claims 1 and 8 reflect the surprising finding of the Applicants that the depolymerized ethylcellulose can be packaged without a neutralization step after depolymerization and the depolymerized ethylcellulose still has an unexpectedly high shelf life. The viscosity of the depolymerized cellulose ether is surprisingly stable, even if some or all of the utilized hydrogen chloride is still present:

> Preferably, depolymerized ethylcellulose is packaged without a neutralization step after depolymerization. By avoiding a neutralization step before the depolymerized ethylcellulose is packaged for transportation and usage, contamination with a basic compound can be avoided. Surprisingly it has been found that the depolymerized ethylcellulose has an unexpectedly high shelf life, even if some or all of the used hydrogen chloride is still present in the depolymerized ethylcellulose. Over 4 months under storage at 4 °C, a viscosity drop of less than 1.5% of the final viscosity is observed.

Page 6, paragraph 2 of the present patent application.

In the final rejection the Examiner has indicated *"no comparisons are made, for example to the stability of depolymerized ethylcellulose with a neutralization step. As such, the applicant has not met the burden of proof of showing that the results are unexpected and significant."* Applicants respectfully submit that no comparisons are necessary in this case. Theoretically, the best case scenario for depolymerized ethylcellulose *with a neutralization step* would show no (0%) viscosity drop. Applicants achieved a 1.5% drop, which is very

near the theoretically "perfect" mark. Applicants cannot understand how the Examiner cannot consider that probative to the burden of proof. **A viscosity drop of less than 1.5% after 4 months storage time while some or all of the utilized hydrogen chloride (depolymerization agent) is still present in the depolymerized ethylcellulose is indeed surprising.**

The Examiner had indicated in the previous Office Action that Savage teaches the addition of hydrogen peroxide followed by packaging (column 3, line 66-68) with no intermediate neutralization step. In the final rejection the Examiner has indicated "Savage teach that a pH of 8-11 (column 3 lines 21-25) can be used. Thus there can be neutralization." Applicants respectfully submit that is a circular argument - since there is no acid utilized in Savage's process, the fact that Savage does not mention neutralization does not mean anything. Savage teaches a pH of 8-11 to increase the effectiveness of the peroxide oxidation and does not render the claimed process obvious.

The Examiner has further stated that:

> *Even if one considered the heating step of Savage to be the equivalent to a "neutralization step", Savage specifically teaches that the final product with its viscosity adjusted as required for a particular application can be used or packaged without further treatment. Although Savage discuss heating steps (column 3, lines 53-57) such steps are not mandatory. In fact, in run 2-2 (Table 2 column 4) and run 3-2 (Table 3 column 4) Savage teach runs in which there was no heating. In other words, the heating step is an optional step.*

Applicants respectfully disagree. Run 2-2 (Table 2, column 4) and Run 3-2 (Table 3, column 4) are *quasi*-comparatives. They do not illustrate that heat treatment is optional, but to the contrary, that without heat treatment only a partial depolymerization is achieved (i.e., the viscosity in run 2-2 is significantly higher than in runs 2-3 to 2-6). As can be concluded from column 3, lines 50-60 of Savage's teaching, in Runs 2-2 and 3-2 residual peroxide is left; stable viscosity grade products are not provided. Savage teaches on page 3, lines 50-60:

> Initial scission of the cellulose ether after blending with hydrogen peroxide occurs at room temperature. However, significant levels of residual peroxide are found even after 2 months at 20°-30°C. Therefore, to eliminate residual peroxides and provide a stable viscosity grade product, the treated cellulose ether should be heated shortly after blending with the peroxide to about 50-150°C for a time sufficient to decompose essentially all the peroxide. Generally, a temperature of about 85°C-125°C is preferred. A heating period of about 0.5-2 hrs is normally sufficient to react substantially all the hydrogen peroxide.

Emphasis added. Accordingly, Savage clearly teaches that the depolymerization should be conducted that all residual peroxide is eliminated by complete reaction with the cellulose ether (wherein the peroxide is decomposed) and that this should be done by heat treatment.

Schulz, Keary and Pyle all teach away from the presently claimed invention. Schulz teaches neutralization following depolymerization *(col.5, l. 17-20)*. Keary et al. teach partial or substantial neutralization as a mandatory step *(claim 1, step g) and column 1, lines 65-66)*. Pyle does not even teach a depolymerization process at all.

For similar reasons, Applicants submit that the nonstatutory obviousness-type double patenting rejections should not be reapplied.

The Examiner is cordially invited to call the undersigned if it will facilitate prosecution.

Respectfully submitted,

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